

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-11 are pending in this application; Claims 1-11 having been presently amended. Support for amended Claims 1-11 can be found, for example, in the original claims, drawings, and specification as originally filed.¹ No new matter has been added.

In the outstanding Office Action, Claim 10 was objected to due to informalities; Claim 9 was rejected under 35 U.S.C. § 102(b) as anticipated by Haartsen (U.S. Patent No. 6,026,297, hereinafter “Haartsen ‘297”); and Claims 1-8 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over Haartsen ‘297 in view of Haartsen (U.S. Patent No. 7,016,372, hereinafter “Haartsen ‘372”).

In response to the objection to Claim 10, Applicants have corrected the informality by changing the dependency of Claim 10. Accordingly, Applicants respectfully submit that the objection to Claim 10 has been overcome.

In response to the rejection of Claims 1-8 and 11 under 35 U.S.C. § 103(a) as unpatentable over Haartsen ‘297 in view of Haartsen ‘372, Applicants respectfully submit that amended Claim 1 recites novel features clearly not taught or rendered obvious by the applied references.

Amended independent Claim 1 is directed to a method to provide additional bandwidth for a wireless ad hoc network configured to operate in a certain communication channel with a certain amount of available bandwidth including, *inter alia*:

¹ See page 11, lines 17-21 of the specification and original Claim 1.

. . . checking by a central controller of said wireless ad hoc network whether more bandwidth than said certain amount of available bandwidth is required by said plurality of wireless terminals; and

splitting up said wireless ad hoc network such that at least one new wireless ad hoc network is spawned, if more bandwidth than said certain amount of available bandwidth is required by said plurality of wireless terminals, wherein

after the splitting up of said wireless ad hoc network at least one wireless terminal of said wireless ad hoc network and/or one or more new wireless terminals belong(s) to said at least one new wireless ad hoc network, and

said at least one new wireless ad hoc network is operating in a respective different communication channel.

Haartsen '297 describes a method and apparatus for operating a wireless unit to contemporaneously participate in a plurality of wireless networks,² wherein a wireless unit which is configured as a master or as a slave in a first network can enter a second network.³ Haartsen '372 "relates to bandwidth allocation in a network controlled by a central traffic scheduler, and to methods and embodiments of a scheduling algorithm that improves throughput of asynchronous services."⁴

The outstanding Office Action, on Page 4, states that Haartsen '372 describes the provision of "additional bandwidth if more bandwidth than said certain amount of available bandwidth is required by said plurality of wireless terminals." However, Haartsen '372 **does not provide additional bandwidth**. Rather, Haartsen '372 reallocates the bandwidth which is available in the network to the network units according to a priority scheme. For example, Haartsen '372, states that when the slaves' requested capacity exceeds the actual capacity,

² See Haartsen '297 at column 2, lines 39-41.

³ See Haartsen '297 at column 4, lines 4-16.

⁴ See Haartsen '372 at column 1, lines 14-17.

“the slave with the lowest priority is automatically cut on its throughput request.”⁵ Therefore, no additional bandwidth is provided.

In addition, Haartsen ‘372 describes an alternative solution when bandwidth restrictions in a wireless network begin to decrease the communication efficiency. In such a situation, the available bandwidth is allocated between the wireless units of the same network according to a priority scheme.⁶ Therefore, no additional bandwidth is provided.

Further, Haartsen ‘372 fails to teach or suggest checking for a bandwidth overload in the network and controlling the spawning of a second network as a response to a sensed overload. Haartsen ‘372 describes that the dynamic bandwidth allocation results in “the slave with the lowest priority [being] automatically cut on its through-put request.”⁷ Therefore, Haartsen ‘372 does not sense a bandwidth overload, but automatically anticipates and avoids a bandwidth overload by limiting the throughput at the low priority slaves.

Lastly, the outstanding Office Action, on Page 2, states that Haartsen ‘297 “discloses a controller of a wireless ad hoc network . . . characterized by a splitting means . . . wherein a new wireless ad hoc network is spawned” because of the use of the phrase “new piconet” in column 6, line 11 of Haartsen ‘297. Applicants respectfully note that the use of the word “*enter*” elsewhere in Haartsen ‘297 implies that Haartsen ‘297 describes a change between two *established* piconets and does not describe the creation of a new piconet. For example, column 4, lines 12-15 of Haartsen ‘297 states “[a] slave unit leaving the first piconet can enter the second piconet as a slave . . . or as a master.”

⁵ See Haartsen ‘372 at column 12, lines 23-24.

⁶ See Haartsen ‘372 at column 14, lines 28-44.

⁷ See Haartsen ‘372 at column 12, lines 32-34.

Thus, Haartsen '372 does not teach or suggest the provision of additional bandwidth. Furthermore, the outstanding Office Action, on Page 4, acknowledges that Haartsen '297 “does not specifically disclose to provide additional bandwidth if more bandwidth than said certain amount of available bandwidth is required.” Therefore, Haartsen '297 and Haartsen '372 either alone or in proper combination, fail to teach or suggest “***checking by a central controller of said wireless ad hoc network whether more bandwidth than said certain amount of available bandwidth is required . . . and splitting up said wireless ad-hoc network such that at least one new wireless ad hoc network is spawned***” as recited in amended Claim 1.

Amended independent Claim 7 is directed to a wireless terminal and recites, *inter alia*, “***a sending unit configured to send out a confirmation command . . . if the condition checking unit determines that the wireless terminal can be operated under said certain conditions.***” The outstanding Office Action, on Pages 6 and 7, states that Haartsen '372 describes a “confirmation command [being] used by a request wireless terminal to signal that it can move to said at least one new ad hoc wireless network.” However, Haartsen '372 describes a polling scheme for a frequency hop/time division duplex channel, and does not teach or suggest a change to another wireless network.⁸ In addition, the outstanding Office Action, on Page 6, acknowledges that Haartsen '297 “does not specifically disclose a confirmation command is used by a request wireless terminal to signal that it can move to at least one new ad hoc wireless network.” Therefore, the combination of Haartsen '297 and Haartsen '372 fails to teach or suggest a confirmation command used by a request wireless

⁸ See Haartsen '372 at column 8, line 16 to column 9, line 25.

terminal to signal that it can move to a new ad hoc wireless network, as recited in amended Claim 7.

Amended Claim 2 recites, *inter alia*, that “**said central controller determines a new central controller for said at least one new wireless ad hoc network.**” The outstanding Office Action, on Page 4, states that Haartsen ‘297 describes a central controller that “determines a new central controller for said at least one new wireless ad-hoc network.” However, Haartsen ‘297 actually describes that a unit participating as a master in a network B checks the expiration of a first time-out from network A.⁹ On expiration of the first time-out, the unit enters into a second time-out with network B. The unit is then active in network A and periodically checks the expiration of the second time-out.¹⁰ Then, the unit switches back to network B at expiration of the second time-out.¹¹ The unit leaves network B **without determining a new central controller for network B**. Hence, it is clear, that the unit leaves network A **without determining a new central controller for network A**.¹² Thus, Haartsen ‘297 fails to teach or suggest **a central controller configured to determine a new central controller for a new wireless ad-hoc network.**

Amended Claim 4 recites, *inter alia*, that “**wireless terminals with certain connections that should not be interrupted are not moved** to said at least one new wireless ad hoc network.” The outstanding Office Action, on Page 5, states that Haartsen ‘297 describes that “said certain separation criteria assure that wireless terminals with certain connections that should not be interrupted are not moved to said at least one new wireless ad-hoc network.” However, column 4, lines 33-40 of Haartsen ‘297 describes that a master

⁹ See Haartsen ‘297 at column 6, lines 12-15.

¹⁰ See Haartsen ‘297 at column 6, lines 26-29.

¹¹ See Haartsen ‘297 at column 6, lines 30-36.

¹² See Haartsen ‘297 at column 5, lines 58-63.

leaving a network A puts all slaves of network A into a hold mode. On expiration of a hold time out, the slaves wake up and wait to hear from the master again. Thus, the connection between the units is actually interrupted. Therefore, Haartsen '297 fails to teach or suggest that connections to wireless terminals that cannot be interrupted are not interrupted.

Amended Claim 5 recites, *inter alia*:

. . . providing new commands in order to spawn said at least one new wireless ad hoc network, wherein

a requesting command (SPAWN_NETWORK) is sent to a request wireless terminal to ask this request wireless terminal to move to said at least one new ad hoc wireless network, and

a confirmation command (SPAWN_NETWORK_ACK) is used by a request wireless terminal to signal that it can move to said at least one new ad hoc wireless network.

The outstanding Office Action, on Page 5, states that Haartsen '297 describes that “a requesting command is sent to a request wireless terminal to ask this request wireless terminal to move to said at least one new ad-hoc wireless network.” However, according to column 6, lines 19-23 of Haartsen '297, the master unit comes to an agreement with all network B slaves as to a hold time-out period for piconet B. The command sets the receiving units *in a hold state*, but does not initiate a network change of the receiving unit. Thus, Haartsen '297 fails to teach or suggest a command that *initiates a network change* of the receiving unit.

The outstanding Office Action, on Page 5, also states that Haartsen '372 describes that “a confirmation command is used by a request wireless terminal to signal that it can move to said at least one new ad-hoc wireless network.” However, as previously mentioned,

column 8, line 16 to column 9, line 25 of Haartsen '372 describes, in a general manner, a polling mode for a frequency hop/time division duplex (FH/TDD) channel. Thus, Haartsen '372 does not teach or suggest that a request wireless terminal uses a confirmation command to signal that it can move to a new ad-hoc wireless network.

Accordingly, it is respectfully submitted that independent Claims 1 and 7, and all claims depending therefrom, patentably distinguish over Haartsen '297 in view of Haartsen '372.

Thus, Applicants respectfully request that the rejection of Claims 1-8 and 11 under 35 U.S.C. § 103(a) as unpatentable over Haartsen '297 in view of Haartsen '372 be withdrawn.

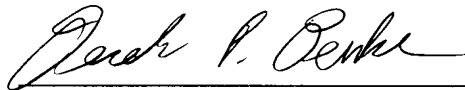
In response to the rejection of Claim 9 under 35 U.S.C. § 102(b) as anticipated by Haartsen '297, Applicants note that Claim 9 recites substantially similar features to independent Claim 1. Accordingly, independent Claim 9 is believed to be patentable for at least the reasons discussed above.

Thus, Applicants respectfully request that the rejection of Claim 9 under 35 U.S.C. § 102(b) be withdrawn.

Consequently, in view of the present amendment and in light of the above discussion, the pending claims as presented herewith are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Attorney of Record
Registration No. 40,073

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 08/07)

Derek P. Benke
Registration No. 56,944